

What is claimed is:

1. A diesel exhaust particulate filter comprising a plugged, wall-flow honeycomb filter body composed of ceramic material and comprising a plurality of parallel end-plugged inlet and outlet cells traversing the body from a frontal inlet end to an exhaust outlet end thereof, the cells being arranged in a checkerboard pattern, wherein the cells have non-equal square cross-sections formed by interior porous walls, the inlet cells having a greater cross-section than the outlet cells, the interior porous walls comprising a first portion facilitating communication between the inlet and outlet cells, and the remaining portion of interior walls engaging only the inlet cells where not in communication with the outlet cells.
2. A diesel exhaust filter in accordance with claim 1 wherein the first portion of the interior walls is filtration active and the remaining portion of the interior walls is filtration non-active.
3. A diesel exhaust filter in accordance with claim 1 wherein the inlet cells have a hydraulic diameter 1.1-2 times greater than the outlet cells.
4. A diesel exhaust filter in accordance with claim 3 wherein the inlet cells have a hydraulic diameter 1.3-1.6 times greater than the outlet cells.
5. A diesel exhaust filter in accordance with claim 4 wherein the honeycomb body is made of cordierite or silicon carbide.

6. A honeycomb extrusion die comprising a die body, the die body comprising:

an inlet face,

a discharge face opposite the inlet face,

a plurality of feedholes extending from the inlet face into the body,

an intersecting array of discharge slots extending into the body from the discharge face to connect with the feed holes at feed hole/slot intersections within the die,

the intersecting array of discharge slots being formed by side surfaces of a plurality of pins of two different cross sectional areas forming a checkerboard matrix of pins alternating in size.

7. The honeycomb extrusion die according to claim 6 wherein pins have a square cross section.